Supplementary file 2. Mandibular strength of nine European *Osmia* species of the subgenus *Melanosmia* based on a biomechanical model by Ibanez et al. (2013): $F = F_A \times (L_A / L_M) \times 1/R_C$, where F = force of mandible, F_A = area of mandible section as proxy for force of adductor muscle (mm^2), L_A = lever of adductor muscle (mm), L_M = lever of mandible (mm) and R_C = width of cutting margin (mm). The species are arranged in decreasing order of mandible force. Nesting site after Müller (2019 and references therein).

Bee species	Nesting site	Mandible no	F	F_A	L_A	L_M	R_C
Osmia nigriventris	self-excavated burrows in bark or dead wood	1	**0.206**	0.560	0.686	1.782	1.047
		2	**0.212**	0.585	0.732	1.879	1.073
		3	**0.186**	0.488	0.618	1.717	0.944
Osmia pilicornis	self-excavated burrows in dead branches	1	**0.190**	0.254	0.482	1.220	0.527
		2	**0.195**	0.279	0.488	1.232	0.568
		3	**0.202**	0.265	0.499	1.229	0.532
Osmia uncinata	insect burrows in dead wood and bark	1	**0.113**	0.199	0.382	1.155	0.580
		2	**0.116**	0.211	0.404	1.216	0.605
		3	**0.129**	0.195	0.400	1.104	0.548
Osmia steinmanni	unknown	1	**0.088**	0.260	0.401	1.476	0.800
Osmia maritima	self-excavated burrows in loose soil	1	**0.073**	0.290	0.467	1.818	1.023
		2	**0.074**	0.266	0.459	1.719	0.957
Osmia parietina	insect burrows in dead wood, cavities in rocks and stones	1	**0.074**	0.144	0.306	1.089	0.548
		2	**0.069**	0.144	0.300	1.100	0.568
		3	**0.071**	0.107	0.273	0.918	0.446
Osmia xanthomelana	litter, grass tussocks, self-excavated burrows in loose soil	1	**0.069**	0.354	0.523	2.117	1.272
		2	**0.063**	0.312	0.497	2.037	1.207
		3	**0.060**	0.291	0.470	1.957	1.156
Osmia alticola	self-excavated burrows in loose soil	1	**0.063**	0.325	0.489	2.013	1.253
Osmia inermis	underside of stones, cavities in rocks and stones	1	**0.063**	0.349	0.501	2.146	1.303
		2	**0.061**	0.321	0.481	2.064	1.236
		3	**0.056**	0.282	0.457	1.977	1.163